Sandia National Laboratories / New Mexico

PROPOSAL FOR NO FURTHER ACTION ENVIRONMENTAL RESTORATION PROJECT SITE 23, DISPOSAL TRENCHES OPERABLE UNIT 1309

June 1995

Environmental
Restoration
Project

United States Department of Energy
Albuquerque Operations Office

PROPOSAL FOR NO FURTHER ACTION

Site 23, Disposal Trenches
Operable Unit 1309

SANDIA NATIONAL LABORATORIES/NEW MEXICO

1. Introduction

1.1 ER Site Identification, Number, and Name

Sandia National Laboratories/New Mexico (SNL/NM) is proposing an administrative no further action (NFA) decision for Environmental Restoration (ER) Site 23, Disposal Trenches near Tijeras Arroyo, Operable Unit (OU) 1309. ER Site 23 is listed in the Hazardous and Solid Waste Amendment (HSWA) Module IV (EPA August 1993) of the SNL/NM Resource Conservation and Recovery Act (RCRA) Hazardous Waste Management Facility Permit (NM5890110518) (EPA August 1992).

1.2 SNL/NM Administrative NFA Process

This proposal for a determination of an administrative NFA decision has been prepared using the criteria presented in Section 4.5.3 of the SNL/NM Program Implementation Plan (SNL/NM February 1994). Specifically, this proposal will "contain information demonstrating that this SWMU has never contained constituents of concern that may pose a threat to human health or the environment" [as proposed in the Code of Federal Regulations (CFR), Section 40 Part 264.51(a) (2)] (EPA July 1990). The HSWA Module IV contains the same requirements for an NFA demonstration:

> Based on the results of the RFI [RCRA Facility Investigation] and other relevant information, the Permittee may submit an application to the Administrative Authority for a Class III permit modification under 40 CFR 270.42(c) to terminate the RFI/CMS [corrective measures study] process for a specific unit. This permit modification application must contain information demonstrating that there are no releases of hazardous waste including hazardous constituents from a particular SWMU at the facility that pose threats to human health and/or the environment, as well as additional information required in 40 CFR 270.42(c) (EPA August 1993).

In requesting an administrative NFA decision for ER Site 23, Disposal Trenches, this proposal is using existing administrative/archival information, recent (1994) interviews, and surface radiation and geophysical surveys to satisfy the permit requirements. This unit is eligible for an administrative NFA proposal based on one or more of the following criteria taken from the RCRA Facility Assessment Guidance (EPA October 1986):

Criterion A: The unit has never contained constituents of concern

Criterion B: The unit has design and/or operating characteristics that effectively prevent releases to the environment

Criterion C: The unit clearly has not released hazardous waste or constituents into the environment

Specifically, ER Site 23 is being proposed for an administrative NFA decision because the SWMU has never contained constituents of concern (Criterion A).

1.3 Local Setting

SNL/NM occupies 2,829 acres of land owned by the Department of Energy (DOE), with an additional 14,920 acres of land provided by land-use permits with Kirtland Air Force Base (KAFB), the United States Forest Service (USFS), the State of New Mexico, and the Isleta Indian Reservation. SNL/NM has been involved in nuclear weapons research, component development, assembly, testing, and other nuclear activities since 1945.

Figure 1 shows the reported location of Site 23. This location is due west of the Tijeras Arroyo Golf Course, between the Eubank Extension and Pennsylvania Avenue.

2. History of the SWMU

2.1 Sources of Supporting Information

In preparing the request for an administrative NFA decision for ER Site 23, a background study was conducted to collect available and relevant site information. Interviews were conducted with Sandia National Laboratories/New Mexico (SNL/NM) staff and contractors familiar with site operational history.

The following information sources were available for use in the evaluation of ER Site 23:

- Interviews and personnel correspondence
- One surface radiation survey
- One unexploded ordnance/high explosive survey
- One surface geophysical survey

2.2 Previous Audits, Inspections, and Findings

ER Site 23 was first listed as a potential release site based on the Comprehensive Environmental Assessment and Response Program (CEARP) interviews in 1985 (DOE September 1987), which reported that burial activities occurred during the late 1950s or early 1960s. However, a surface radiation survey detected no radioactivity above background. The Comprehensive Environmental Response, Compensation, and Liability Act finding was uncertain. No Hazard Ranking System or Modified Hazard Ranking System migration mode score could be calculated due to insufficient information. Subsequent to the CEARP inspection, the U.S. Environmental Protection Agency (EPA) conducted a RCRA Facility Assessment (RFA). This SWMU was identified in the RFA report (EPA April 1987).

2.3 Historical Operations

An SNL/NM employee "...heard that men in white anti-C suits and heavy equipment were digging in the staked area of the arroyo near the golf course in the late 1950s or early 1960s."

The employee believes this area "should receive further study" (DOE 1985). Further hearsay reported by the employee indicated that the site was used in a training exercise in which one or more sealed, radioactive sources were buried and an attempt was made to find the source or sources. Sources may have been left in the ground after the exercise or may have been removed. These sources are suspected to contain thorium and lie buried in one of three trenches. The three former trench locations were reportedly marked at the surface near the center of each trench with yellow-painted metal posts. The trenches were estimated to be oriented roughly east-west, approximately 20 feet long and 5 feet wide.

Recent evidence indicates that water lines are buried in the locations reported as the thorium burial trenches. Also, further evidence indicates that if disturbances occurred at this site, they were not conducted by SNL/NM or any other party representing the Department of Energy (DOE).

3. Evaluation of Relevant Evidence

3.1 Unit Characteristics

This section does not apply to this site.

3.2 Operating Practices

Hazardous wastes were not managed or contained at ER Site 23

3.3 Presence or Absence of Visual Evidence

The soil is not discolored and no other visual evidence of disposal activities is present at Site 23.

3.4 Results of Previous Sampling/Surveys

No unexploded ordnance or high explosives were found during a visual surface survey (SNL/NM 1994a). A surface radiation survey also was conducted on the entire site. No surface anomalies were detected (SNL/NM 1994b). An electromagnetic surface geophysical survey was conducted on June 8, 9, and 10, 1994. Instead of identifying burial trenches, the surface geophysical survey indicated the presence of a buried metal water line. (Van Hart and Hyndman 1994).

3.5 Assessment of Gaps in Information

Additional information was obtained because no environmental sampling data existed for Site 23. This information is discussed in Sections 3.4 and 3.6.

3.6 Rationale for Pursuing an Administrative NFA Decision

Initial field investigation began in early 1994. No unexploded ordnance or high explosives were found during a visual surface survey. A surface radiation survey also was conducted on the entire site. No surface anomalies were detected. An electromagnetic surface geophysical survey was conducted on June 8, 9, and 10, 1994. The intention was to define the trench orientations and possibly locate the suspected radioactive source or sources. Instead of identifying burial trenches, the surface geophysical survey indicated the presence of a buried metal water line. The yellow metal posts mark a water line instead of trenches (Van Hart and Hyndman 1994). Surface survey information found no surface or shallow subsurface indications of radioactive or hazardous materials.

4. Conclusion

Based upon the evidence cited above, ER Site 23 has never contained constituents of concern. Therefore, ER Site 23 is recommended for an NFA determination.

5. References

5.1 ER Site References

Department of Energy (DOE), Albuquerque Operations Office, October 1985, interviews with current and retired SNL/NM personnel, conducted by personnel from the Los Alamos National Laboratory in support of the Comprehensive Environmental Assessment and Response Program.

Van Hart, D. and D.A. Hyndman, 1994, "Electromagnetic Surveys of Three Suspected Trenches, Environmental Restoration Site 23, Sandia National Laboratories," prepared for Department 7582, Sandia National Laboratories, Albuquerque, New Mexico.

Sandia National Laboratories/New Mexico (SNL/NM), 1994a. "Unexploded Ordnance/High explosives (UXO/HE) Visual Survey of ER Sites Final Report, Albuquerque, New Mexico," Sandia National Laboratories, Albuquerque, New Mexico.

Sandia National Laboratories/New Mexico (SNL/NM), 1994b. "Summary of Radiological Survey Results by SNL Dept. 7714 for ER Sites 23, 50, 227, 229, 230-234," Sandia National Laboratories, Albuquerque, New Mexico.

U.S. Environmental Protection Agency (EPA), July 1990. "Corrective Action for Solid Waste Management Units (SWMU) at Hazardous Waste Management Facilities, Proposed Rule," *Federal Register*, Vol. 55, Title 40, Parts 264, 265, 270, and 271.

5.2 Reference Documents

Sandia National Laboratories/New Mexico (SNL/NM), February 1994. Draft "Program Implementation Plan for Albuquerque Potential Release Sites," Sandia National Laboratories, Albuquerque, New Mexico.

Department of Energy (DOE), Albuquerque Operations Office, Environmental Safety and Health Division, Environmental Program Branch, September 1987, draft "Comprehensive Environmental Assessment and Response Program (CEARP) Phase I: Installation Assessment, Sandia National Laboratories, Albuquerque, New Mexico."

Sandia National Laboratories/New Mexico (SNL/NM), August 1994. "Environmental Restoration Project Information Sheet for Site 23, Disposal Trenches (near Tijeras Arroyo)," Sandia National Laboratories, Albuquerque, New Mexico.

U.S. Environmental Protection Agency (EPA), April 1987. "Final RCRA Facility Assessment Report of Solid Waste Management Units at Sandia National Laboratories, Albuquerque, New Mexico," Contract No. 68-01-7038, EPA Region VI.

U.S. Environmental Protection Agency (EPA), August 1993. "Module IV of RCRA Permit No. NM 5890110518, EPA Region VI," issued to Sandia National Laboratories, Albuquerque, New Mexico.

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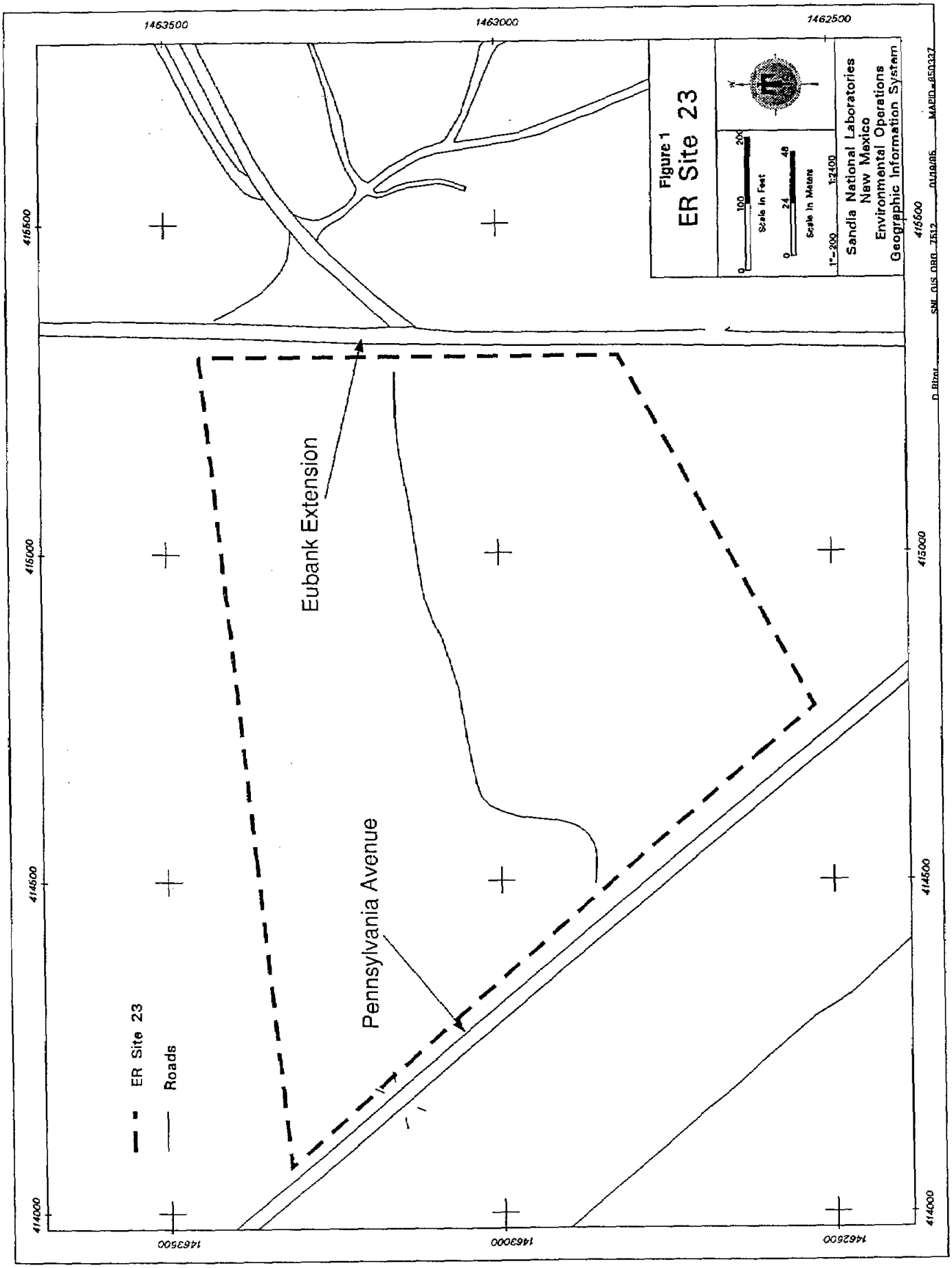

Figure 1. Disposal Trenches Site 23